

HM Treasury

Cost ceilings for scheme level discussions

Summary of update to advice on data, methodology and assumptions (differences between initial advice of 22 July 2011 and advice of 31 August 2011)

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1 Introduction

- 1.1 The Government has decided to set scheme-specific cost ceilings for scheme-specific discussions of pension scheme designs with trades unions and other interested groups.
- 1.2 Cost ceilings will be set with reference to the scheme specific contribution rates required to provide the benefits for a 'Reference Scheme' design.
- 1.3 GAD provided initial advice on appropriate data, methodology and assumptions to be used for the purpose of setting cost ceilings in our note of 22 July 2011: *Cost ceilings for scheme level discussions: Initial advice on data, methodology and assumptions*.
- 1.4 Having consulted schemes and scheme actuaries, HM Treasury has commissioned GAD to provide an update to that advice on appropriate data, methodology and assumptions to be used for the purpose of setting cost ceilings. In particular, HM Treasury has requested that GAD provide further advice in the following specific areas:
 - > the circumstances under which it is reasonable to use data projected to 2015 and, in this regard, the considerations which need to be taken into account, and the approach to assumption setting;
 - > the circumstances in which it would be appropriate to use scheme experience in determining the assumption for the proportion of pension commuted for lump sum, and the methodology to do this when appropriate;
 - > the approach to assumptions in relation to extrapolations beyond current normal pension ages; and
 - > the approach to assumptions in relation to members who leave the scheme and either rejoin or transfer to another public service pension scheme within 5 years.
- 1.5 In response to this request, we have revised the initial advice of 22 July 2011 and provided updated advice in the note of 31 August 2011: *Cost ceilings for scheme level discussions: Advice on data, methodology and assumptions*.
- 1.6 This note sets out the updates made in GAD's note of 31 August 2011 compared with our initial advice of 22 July 2011, and provides rationales for the changes. It should be read in conjunction with those notes.
- 1.7 We understand that HM Treasury is continuing to discuss cost ceilings with trades unions and other interested groups. We will be happy to provide further advice following these discussions if required.

Structure of this note

- 1.8 The sections in the remainder of this note cover the following:
 - > Section 2: Updated advice
 - > Section 3: Proportion of pension commuted
 - > Section 4: Sensitivity analyses
 - > Section 5: Purpose and limitations

2 Updated advice

- 2.1 This section summarises the updates made in GAD's note of 31 August 2011 compared with our initial advice of 22 July 2011.
- 2.2 It starts by discussing the further advice requested by HM Treasury in the following specific areas:
- > the circumstances under which it is reasonable to use data projected to 2015 and, in this regard, the considerations which need to be taken into account, and the approach to assumption setting;
 - > the circumstances in which it would be appropriate to use scheme experience in determining the assumption for the proportion of pension commuted for lump sum, and the methodology to do this when appropriate;
 - > the approach to assumptions in relation to extrapolations beyond current normal pension ages; and
 - > the approach to assumptions in relation to members who leave the scheme and either rejoin or transfer to another public service pension scheme within 5 years.
- 2.3 It then discusses two general issues that relate to the further advice provided in these specific areas:
- > Consistency and the use of collateral data
 - > Sensitivity analysis
- These general issues arise in the further advice provided in respect of a number of the specific areas raised in paragraph 2.2 above, and so we feel it is helpful to identify these points separately. These general issues were not specifically discussed in the initial advice of 22 July 2011.
- 2.4 It concludes by commenting on other minor changes made.

Membership data projected to 2015

- 2.5 Cost ceilings will be set with reference to the scheme specific contribution rates required to provide the benefits for a 'Reference Scheme' design. It is necessary to have membership data in order to calculate the scheme specific contribution rates.
- 2.6 GAD's initial advice of 22 July 2011 suggested that extract data – generally the membership data for the most recent actuarial valuation of the pension scheme – should be used without projection to 1 April 2015. It also suggested that HM Treasury considers using projected data rather than historic data only if:
- > The projections are suitably robust for this purpose, and
 - > The use of projected membership data would have a material impact on the comparison of a scheme design with the reference scheme.
- 2.7 HM Treasury requested that GAD provide further advice on the circumstances under which it is reasonable to use data projected to 2015. In particular, there are some purposes for which it may *not* be appropriate to use historic data. Some schemes have a section which is closed to new entrants, and in which members pay a different contribution rate from that paid by the members in the section open to new entrants (eg PCSPS Classic section, Firefighters' Pension Scheme). In such circumstances it would not be appropriate to calculate the projected average member contribution rate in 2015 on the basis of historic data.

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- 2.8 Where the use of historic data would not be appropriate, we suggest that HM Treasury considers alternative approaches. We suggest that assumptions for any projections should be best estimates.
- 2.9 However, excluding circumstances where the use of historic data would not be appropriate, we continue to suggest that the approach outlined in the initial advice of 22 July 2011 is appropriate, since it leads to a transparent source of appropriately checked data.
- 2.10 GAD's advice of 31 August 2011 reflects the suggestion at paragraph 2.8.

Commutation

- 2.11 The reference scheme allows pension to be commuted for lump sum at the rate of £12 of lump sum for each £1 a year of pension, but no fixed lump sums are payable. It is necessary to set assumptions for the proportion of pension commuted in exchange for a lump sum in order to calculate the cost ceiling, and this assumption will have a material effect on the level of the cost ceiling.
- 2.12 GAD's initial advice of 22 July 2011 suggested that HM Treasury adopts an assumption of the proportion of pension commuted in exchange for a lump sum of 75% of the HMRC limit (ie commuting 26.8% of their pension) across all the schemes.
- 2.13 HM Treasury requested that GAD provide further advice on the circumstances in which it would be appropriate to use scheme experience in determining the assumption for the proportion of pension commuted for lump sum, and the methodology to do this when appropriate.
- 2.14 We understand that there is some scheme specific experience data on the proportion of pension commuted in exchange for a lump sum, mainly related to members in schemes that provide an automatic lump sum of three times annual pension.
- 2.15 We agree that such data is relevant to setting the assumption for the proportion of pension commuted in exchange for a lump sum for members who will have some service in the existing schemes up to 31 March 2015 and some service in the reformed schemes from 1 April 2015, and where suitably robust experience data exists it would be appropriate to take account of it.
- 2.16 We suggest that HM Treasury asks schemes to propose scheme specific assumptions for the proportion of pension commuted in exchange for a lump sum. Section 3 contains further comment on commutation, and sets out a methodology for using experience data in determining the assumption for the proportion of pension commuted for lump sum.
- 2.17 GAD's advice of 31 August 2011 reflects this suggestion.

Career paths above current Normal Pension Age

- 2.18 The reference scheme has a Normal Pension Age linked to the State Pension Age. It is necessary to set assumptions about career paths up to (and possibly beyond) State Pension Age in order to calculate the cost ceilings.
- 2.19 GAD's initial advice of 22 July 2011 recommended that each scheme's own actuary should be asked to propose assumptions for career paths at ages above the Normal Pension Age in the existing schemes, and that HM Treasury should then review the proposed assumptions.
- 2.20 James Richardson's letter of 22 July 2011 to James Pocklington requested that schemes should outline the scheme specific areas of data, methodology and

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assumptions to be used in calculating cost ceilings by 12 August 2011. These outlines generally include recommended assumptions about career paths above current Normal Pension Age.

- 2.21 HM Treasury requested that GAD provide further advice on the approach to assumptions in relation to extrapolations beyond current normal pension ages. This is a difficult area because there is generally little information available about the career paths for individuals at ages above the Normal Pension Age in the existing pension schemes.
- 2.22 We believe that schemes and their actuaries are well placed to propose suitable assumptions, given their detailed knowledge of their scheme.
- 2.23 However, it is important that assumptions are consistent across the schemes, particularly given the scarcity of relevant data, since it may not be defensible for schemes to adopt different approaches without robust data to support the differences. We suggest that HM Treasury should review the proposed assumptions to check consistency. GAD would be happy to provide advice if required.
- 2.24 GAD's advice of 31 August 2011 reflects the suggestion above.

Rejoiners and transferees

- 2.25 The reference scheme allows members rejoining after a period of deferment of less than 5 years (or transferring to another public service pension scheme within 5 years) to link new service with previous service, as if they had always been an active member (so previous accruals are indexed by earnings for that period of deferment). It is necessary to set assumptions about rejoiners and transferees in order to calculate the cost ceilings.
- 2.26 GAD's initial advice of 22 July 2011 suggested that demographic assumptions should be best estimates, informed by each scheme's own actuary's view of the current best estimate of the demographics of the scheme membership. Demographic assumptions in respect of rejoiners and transferees were not specifically mentioned in that initial advice.
- 2.27 James Richardson's letter of 22 July 2011 to James Pocklington requested that schemes should outline the scheme specific areas of data, methodology and assumptions to be used in calculating cost ceilings by 12 August 2011. These outlines generally provide a suggested treatment for rejoiners and transferees.
- 2.28 HM Treasury requested that GAD provide further advice on the assumptions in relation to members who leave the scheme and either rejoin or transfer to another public service pension scheme within 5 years. This is a difficult area because there is generally little information available about the rejoiner (or transferee) rates in many of the existing pension schemes.
- 2.29 We believe that schemes and their actuaries are well placed to propose suitable assumptions, given their detailed knowledge of their scheme.
- 2.30 However, it is important that assumptions are consistent across the schemes, particularly given the scarcity of relevant data, since it may not be defensible for schemes to adopt different approaches without robust data to support the differences. We suggest that HM Treasury should review the proposed assumptions to check consistency. GAD would be happy to provide advice if required.
- 2.31 GAD's advice of 31 August 2011 reflects the suggestion above.

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Consistency in circumstances where scheme specific data is scarce

- 2.32 A number of the specific areas discussed above relate to the difficulty of setting assumptions where there is little relevant scheme specific data available.
- 2.33 Where schemes do not have relevant demographic experience data, we suggest that they consider using relevant data from other sources, including relevant data from other public service pension schemes. By liaising with other schemes in cases where relevant demographic experience data is scarce, schemes will be able to propose assumptions that are consistent with the proposals of other schemes. It will follow that any differences between the assumptions proposed by different schemes reflect real differences in scheme experience data.
- 2.34 GAD's advice of 31 August 2011 reflects this suggestion.

Sensitivity analysis

- 2.35 A number of the specific areas discussed above highlight the fact that there will be some assumptions on which there will be particular uncertainty.
- 2.36 Where there is uncertainty regarding an assumption, and this uncertainty is particularly relevant to a comparison between a proposed scheme design and the reference scheme, then sensitivity analyses could be considered. Section 4 contains some comments on sensitivity analyses.
- 2.37 GAD's advice of 31 August 2011 reflects these comments.

Other changes

- 2.38 GAD's advice of 31 August 2011 includes some other minor changes, compared with the initial advice of 22 July 2011. These changes are set out in Appendix A.

3 Proportion of pension commuted

- 3.1 As noted in paragraph 2.16, we suggest that HM Treasury asks schemes to propose scheme specific assumptions for the proportion of pension commuted in exchange for a lump sum. This section discusses relevant considerations in setting scheme specific assumptions for the proportion of pension commuted, based on scheme specific experience data.
- 3.2 The scheme specific assumption for the proportion of pension commuted should be relevant to members accruing benefits in the reference scheme from 1 April 2015. As such, it should reflect the expected behaviour of both:
- > Members who are expected to receive a significant automatic lump sum from service up to 31 March 2015 (see paragraph 3.5); and
 - > Members who are expected to receive little or no automatic lump sum from service up to 31 March 2015 (see paragraph 3.8).

Members with a significant automatic lump sum

- 3.3 We agree that scheme specific experience data on the proportion of pension commuted in exchange for an *additional* lump sum is relevant to setting the assumption for the proportion of pension commuted in exchange for a lump sum in the reference scheme for such members.
- 3.4 It is necessary to consider how the data on the proportion of pension commuted in exchange for an additional lump sum in schemes that provide an automatic lump sum of three times annual pension should be used in setting the assumption for the proportion of pension commuted in the reference scheme, which does not provide an automatic lump sum.
- 3.5 We suggest that the assumption for the proportion of pension commuted in the reference scheme for such members is by reference to:
- > the amount of commutation required to provide a lump sum of three times annual pension (after commutation); plus
 - > the proportion of pension commuted in exchange for an additional lump sum in schemes that provide an automatic lump sum of three times annual pension
- This approach is based on the assumption that members will elect to receive a similar split of pension to lump sum following the scheme reforms as they do at present.
- 3.6 Given that little relevant data is available, the comments on consistency in circumstances where scheme specific data is scarce may be relevant to setting these assumptions (see paragraph 2.32).
- 3.7 An alternative approach could be to assume that members either choose to commute the maximum allowable or not to commute at all, and that these proportions are not changed in the short term after 1 April 2015. We suggest that this approach is not adopted. This assumption would lead to a rebalancing of the amount of pension to lump sum in members' benefits. We are not aware of any evidence that would support such an assumption. We accept that a small amount of accrual in the reference scheme is unlikely to lead to a significant change in the proportion of members choosing to commute their pension. However, we expect that members are likely to consider their benefits in respect of service before and after 31 March 2015 in aggregate, and that a small increase in the proportion commuting the maximum allowable of their aggregate benefits would be broadly equivalent to the assumption set

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out in paragraph 3.5 (and no change in the proportion commuted in respect of service up to 31 March 2015).

Members with little or no automatic lump sum

- 3.8 We understand that there is little scheme experience data available on the proportion of pension commuted in exchange for a lump sum for members with little or no automatic lump sum. In the absence of relevant data, it may not be seen to be defensible for different assumptions to be adopted by different schemes. We suggest that it is assumed that members commute three quarters of the HMRC limit (ie commuting 26.8% of their pension), which is broadly in line with data of which we are aware.

General remarks

- 3.9 We suggested in paragraph 3.2 that the scheme specific assumption for the proportion of pension commuted should be relevant to different groups of members who may be expected to commute differing amounts of pension. However, for simplicity, we suggest that a single assumption is set for all members, reflecting the (possibly different) expectations of different groups of members. This simplification is unlikely to affect a comparison between the reference scheme and a proposal for reformed schemes. If it appeared that this simplification could affect the comparison for a particular proposal for reformed schemes, then different assumptions could be adopted for different groups of members.
- 3.10 Given the uncertainty regarding the assumption for the proportion of pension commuted, if this assumption is particularly relevant to a comparison between a proposed scheme design and the reference scheme, then sensitivity analyses could be considered (see Section 4).
- 3.11 The above discussion is relevant to schemes that currently provide for pension to be commuted for lump sum at the rate of £12 of lump sum for each £1 a year of pension. The Firefighters' Pension Scheme uses different commutation rates, and different considerations apply. The assumption for the proportion of pension commuted in the Firefighters' Pension Scheme will be considered separately.

4 Sensitivity analyses

- 4.1 It is certain that emerging experience going forward will differ from the assumptions adopted. Differences will arise due to both short-term fluctuations and where long-term trends may differ from the assumptions adopted.
- 4.2 In general, where there is uncertainty and this uncertainty is particularly relevant to a comparison between a proposed scheme design and the reference scheme, then sensitivity analyses could be considered.
- 4.3 Clearly all the assumptions that underpin a comparison between a proposed scheme design and the reference scheme are uncertain but multiple sensitivity analyses are unlikely to assist in making the cost ceiling process clear and transparent. A sensitivity analysis is therefore most likely to be appropriate where there is no, or very limited, demographic experience available underpinning a particular assumption.
- 4.4 Using sensitivity analyses for these types of assumptions will allow HM Treasury to discuss with schemes and scheme actuaries how a proposal for reformed schemes compares with the reference scheme in a variety of different plausible scenarios of the future.
- 4.5 Assumptions where sensitivity analyses may be particularly relevant for some schemes may include:
 - > projections of data
 - > commutation assumptions
 - > assumed career paths above current Normal Pension Ages
 - > rejoiner and transfer assumptions
- 4.6 If these assumptions, or any other assumption about which there is significant uncertainty, are particularly relevant to a comparison between a proposed scheme design and the reference scheme, then we suggest that HM Treasury considers sensitivity analyses.

5 Purpose and limitations

Purpose, users and commissioning

- 5.1 This report has been prepared by GAD at the request of HM Treasury. The purpose of the report is to set out the updates made in GAD's note of 31 August 2011 compared with our initial advice of 22 July 2011, and provides rationales for the changes.

Third party reliance and liability

- 5.2 This report has been prepared for HM Treasury. I am content for HM Treasury to release this report to third parties (including public service schemes, trades unions and respective scheme actuaries), provided that:
- > it is released in full,
 - > the advice is not quoted selectively or partially, and
 - > GAD is identified as the source of the report.
- 5.3 Third parties whose interests may differ from those of HM Treasury should be encouraged to seek their own actuarial advice where appropriate.
- 5.4 Other than HM Treasury, no person or third party is entitled to place any reliance on the contents of this report, except to any extent explicitly stated herein, and GAD has no liability to any person or third party for any act or omission taken, either in whole or in part, on the basis of this report. If any contents of this report are to be used to inform any Government policy decisions GAD should be consulted before those decisions are made.

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Appendix A: Other minor changes

A.1 The table below lists minor changes made in GAD's note of 31 August 2011, compared with our initial advice of 22 July 2011. These minor changes are not discussed individually in section 2.

Description of change	Cross reference 22 July 2011	Cross reference 31 August 2011	Reason for change
New text inserted on timing of benefit payments (see A.2 below)	Paragraph 5.2	Paragraph 5.2	Clarification of timing of cash flows
Text deleted on the stability of the membership profile (see A.3 below)	Paragraph 5.2	Paragraph 5.3	Stability of the membership profile not necessary in rationale for methodology
Text inserted limiting scope of conclusion (see A.4 below)	Paragraph 5.5	Paragraph 5.6	Clarification that under some assumptions the conclusion may not hold
Text inserted on allowance for behavioural differences when setting assumptions (see A.5 below)	N/A	Paragraph 7.5	Clarification of advice on setting assumptions

A.2 Inserted text:
The benefits would be paid to members after their retirement, potentially many years in the future. Some benefits may be payable to the member's dependants, after the member's death.

A.3 Deleted text:
It is a standard actuarial methodology, and is used in preparing the resource accounts of public service pension schemes. The method is generally suitable when the long term membership profile is expected to remain stable in terms of the age structure, demographics, and general salary profile. Whilst the numbers of active members in public service schemes may be expected to develop and fluctuate over time it seems reasonable to assume that their profile will remain relatively stable.

A.4 Inserted text:
Under some assumptions

A.5 Inserted text:
In some cases the nature of proposals for reformed schemes may lead to behaviour differences (eg age at retirement, proportion of pension commuted in exchange for a lump sum) between the expected decisions of members in:

- > the proposed reformed schemes; and
- > the reference scheme

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In such cases we suggest that HM Treasury sets assumptions for the purpose of verifying that proposed pension scheme designs are within the cost ceiling that are consistent with those used in the calculation of cost ceilings, but with allowance for those behavioural differences.